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2015, May



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[1]Berg Insight, *mHealth and Health Monitoring*, January 2013
[2]Epocrates, *2013 Mobile Trends Report: Maximizing Multi-Screen Engagement Among Clinicians*, 2013
[3]Online First, *A Multi-Center Study of ICU Telemedicine Reengineering of Adult Critical Care*, December 2013

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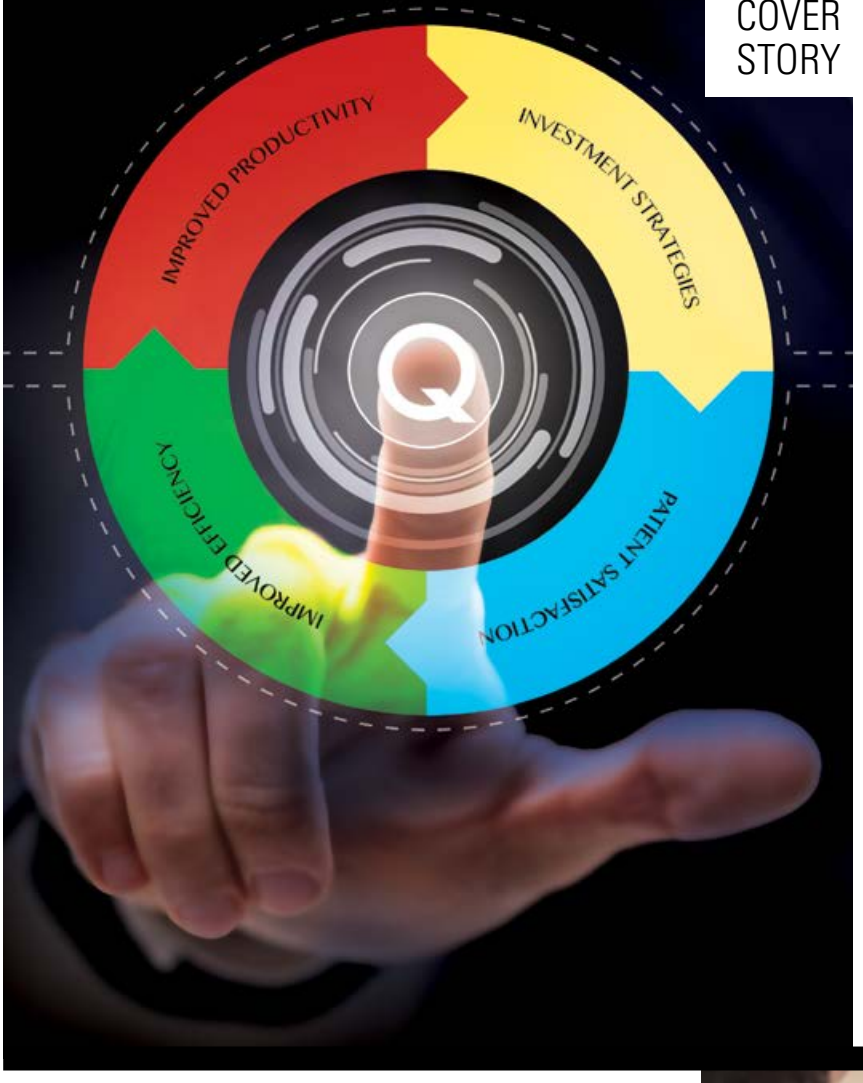
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14 COVER STORY

Quality in the Continuum of Care

University of Miami Health System shares how it reinforces quality, bolsters volumes

By Maryann O'Toole and Jamel Giuma

17 CEO: Efficiency in Healthcare Delivery

The impact of online scheduling is explored

By Tom Cox

20 COO: Improved Productivity in Healthcare Delivery

Just-in-time staffing and hypertension protocols improve productivity for Henry Ford Medical Group

By Thomas Nantais

23 CFO: Effects of Hospitals' Health IT Investments on Quality of Healthcare

Hospitals are struggling with the uncertainty of when and how to invest in capabilities for value-based reimbursement and how far to go in assuming financial risk for populations

By Richard Kimball Jr.

26 CIO: Behavioral Health Integration Boosts System-Wide Quality

Sharing decision support data provides better care and greater savings

By Wayne Easterwood

Features

28 Mobile Medicine

Leverage emerging technology to meet rising urgent care demands

By Andrew Wagner, MD, MBA

31 MDx and Chronic Disease

Can molecular diagnostics aid in the diagnosis and prognosis in complex chronic diseases?

By Robin A. Felder, PhD



28

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Features

33 The Reality of Virtual Payment Systems
Healthcare providers optimize financial performance with new payment platforms
By Rebecca Mayer Knutsen



33

Departments

9 Guest Editorial
A Clinician's Perspective on Big Data
By Dawn Milstead

10 Eye on Quality
Leading for Excellence
By Kathleen Jennison Goonan, MD



10

Online Content

www.advanceweb.com/executiveinsight

Features

What Does a Healthcare CEO Do?

What can a CEO reasonably be expected to do given the broadening expectations of the position brought on by the momentous changes taking place within the industry? Be realistic about what one person can do and build a support system that, as much as possible, works in lockstep in generating vision, formulating strategy and implementing initiatives.

By Andrew Chastain

Healthcare Marketing Practices Gone in the Blink of an Eye

Merging digital marketing platforms and data with the online exchange infrastructures creates several benefits and ultimately predicts the decline of traditional employer-based plans.

Improving Quality Across the Care Continuum

As hospitals and health systems assume more risk and move toward value-driven reimbursement, sustaining quality across the care continuum will become increasingly important.

The Elusive Keys to a Healthier Nation, Part 1

This two-part series discusses the development and implementation of healthcare initiatives and management strategies that consider past, present and future expectations.

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GUEST EDITORIAL

By Dawn Milstead

A Clinician's Perspective on Big Data

As a clinician, I am responsible for helping patients with the facilitation and coordination of their care. Some of them are quite sick and overwhelmed with uncoordinated and sometimes incongruent care plans. But I wear two hats; I also work with data, some of which is quite overwhelming because of uncoordinated, and sometimes incongruent…

You see where I'm going with this.

But I see the possibilities of data, too, when it comes to helping patients achieve their health goals. Just as I always strive to focus on the patient, it is also important to work toward meeting the Institute for Healthcare Improvement's Triple Aim goals of better care for individuals, better health for populations, and lower per capita care while simultaneously delivering patient-focused, personalized care.

As a nurse, I know that "big data" gives us valuable insight into both our patient populations and individual patients. We use data to work more effectively with our patients, to assist them and their physicians in closing identified gaps in care such as missed mammograms or colonoscopies. Data allows us to outreach at-risk patients and their caregivers and engage them in appropriate health programs such as a cancer case management program or a diabetes disease management program. Data even helps us predict which chronically ill patients are most likely to participate in and benefit from these kinds of programs. It's that personalized.

The challenge for all of us in the healthcare system is to effectively identify and use "big data" to create a single view of the patient.

As clinicians, we're naturally inclined to view the patient from our perspective. But there are many views of the same patient: the health insurer's, the physician's and the patient care team, the hospital's, the subacute facility's, the pharmaceutical company's and even the neighborhood CVS or Walmart.

The challenge for all of us in the healthcare system is to effectively identify and use "big data" to create a single view of the patient—a patient-centric view to help him/her improve health and meet personalized health goals. We recognize that the industry isn't there yet, but we're actively working to help it get there with powerful analytics tools and the deployment of clinicians to assist in facilitating coordinated care planning. But until such a time when all the participants on the care team take the same view of the data and its ability to help improve outcomes, the full benefits of big data can't be realized. EI

Dawn Milstead is vice president, Clinical Solutions, Geneia.

ON THE WEB

The table on p.36 of the April issue was incorrect. The correct table has been added to the digital edition at www.advanceweb.com/executiveinsight. *Executive Insight* regrets the error.

By Kathleen Jennison Goonan, MD

Leading for Excellence

Passionate leadership that communicates a clear vision and values for quality is preeminent among five keys to building a successful organizational culture that delivers results, according to new research from ASQ and Forbes Insights. The study, conducted in a variety of industries, including healthcare, highlighted the universal challenge of leading for excellence. The research underscored that every leader, regardless of industry or country around the world, must work deliberately and persistently from C-suite to the frontline to build a culture that supports excellence. It also reinforced similar findings from other recent analyses of healthcare organizations' limited progress in meeting the most basic need: protecting patients from harm and providing safe care while in our facilities (source: Chassin, Loeb, Milbank Quarterly, 2013).

ELEMENTS OF SUCCESS

Success boils down to five not-so-simple but fundamental capabilities—leadership, culture, strategy execution, management practices, and robust process improvement.

ASQ and Forbes surveyed executives and quality professionals internationally across diverse industries and found only 12% consider their organization's quality program as "world-

Kathleen Jennison Goonan, MD, is CEO of Goonan Performance Strategies, a multidisciplinary consulting resource for healthcare senior leaders to achieve organizational performance excellence. She is also an assistant in Health Policy at Massachusetts General Hospital/Partners Mongan Institute for Health Policy and has served on ASQ's Board of Directors.

Eye on Quality is sponsored by the **American Society of Quality**. Contact ASQ at www.asq.org



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Success boils down to five not-so-simple but fundamental capabilities—leadership, culture, strategy execution, management practices, and robust process improvement.

class" versus advanced (36%) or average (42%). Overall, about 60% of all respondents say their leadership unequivocally supports their organization's quality vision and values. In Europe and Asia, only about half of respondents say their organizations have clear quality visions and values. But among world-class organizations, these numbers were dramatically higher, emphasizing the importance of vision, belief, and behaviors, starting at the top. Quality professional and mid-management scores generally jump up 20% for self-described world-class organizations, where staff report their leadership is clear and passionately in the lead on quality.

The research — "Culture of Quality: Accelerating Growth and Performance in the Enterprise" — explores organizations' support of quality and the key components of a successful culture of quality. The research draws on the responses of 1,010 senior leaders and 1,281 quality professionals worldwide. "In order to be effective, a culture of quality must permeate an entire organization," said ASQ Chair Stephen Hacker. "This research provides first-hand and real-world examples from industry leaders of how to strengthen and sustain a high-impact quality culture — which can have dramatic and positive effects on an organization's bottom line."

"Organizations range from those where quality is just a slogan to those where quality is a deep focus for everyone from the CEO on down," said Bruce Rogers, Chief Insights Officer at Forbes Media. "This study shows which elements are vital for a strong culture of quality." The survey results also reveal gaps between senior leaders' and quality professionals' views on culture of quality. This is a gap that occurs in American hospitals and other delivery organizations as well, a challenge that reflects blind spots within the C-suite that can greatly encumber efforts to improve.

RANKINGS OF QUALITY PROGRAMS

According to the research, 71% of senior leaders rate their quality programs as world class or at least advanced. In comparison, 60% of quality professional respondents instead rank their quality program as average or below average. This conclusion would not surprise Mark Chassin, MD, president and CEO of The Joint Commission and co-author of recent analysis of why healthcare organizations have failed to break through and close the high reliability gap. Dr. Chassin and co-author Jerod Loeb analyzed the evidence in healthcare and came to very similar conclusions as ASQ and Forbes, looking at other industries. A critical issue here is the wide gap between the C-suite and the frontline and their disparate perspectives on the problem and what to do about it. It comes back to leadership and effective action at all levels to build culture that supports excellence and high reliability into operations. Awareness of how the organization is perceived at all levels is key to building effective approaches to culture change.

BUILDING A NEW CULTURE

But there are other critical elements to building a culture that is ready and able to address quality problems effectively. Approaches to translating vision into well-deployed action plans and tactics that are regularly evaluated and improved are also important. Everyone must understand their role in achieving strategic improvement initiatives. Translating the vision into actionable projects and frontline activities requires strategic line of sight and clarity throughout the organization. Managers and supervisors of work units make the difference, working in partnership with quality professionals, turning slogans into quality results – or not. Organizational performance goals are translated into clear, measurable expectations for every work unit. World-class organizations also invest in aligned and effective reward and recognition programs, including aligned compensation and promotion practices.

DUKE UNIVERSITY HOSPITAL'S EXPERIENCE

Kevin Sowers, RN, MSN, president of Duke University Hospital (DUH) puts this all in perspective. DUH has spent the last eight years focused on the five key elements: leadership, culture, strategy, execution and process improvement. Their efforts have paid off in overall business results as well as numerous recognitions for quality and safety. But it hasn't been easy or quick. "We've been building and improving our capabilities and culture for many years now. It's an ongoing process, a commitment across our organization, to continually improve and be relentless in our pursuit of excellence," explained President Sowers. "It's all about hardwiring the processes, but we are never satisfied."

Sowers led an effort to renew and define a new vision and mission for DUH, engaging the physicians and workforce widely in creating a picture of the future that everyone at DUH can feel passionate about. Over the last several years, the organization has built mature processes for strategy and implementation, managed oversight of excellence in their clinical service units, and created robust process improvement. All of this investment has allowed DUH to be named in the Top 100 Hospital™ seven times and receive recognition from the Baldrige Performance Excellence Program in the Leadership Category (2013).

Successful executives will take these lessons to heart and focus very concretely on how their senior team leads, what they as a group do to build their culture, and how they use state-of-the-art process improvement methodologies. EI

ON THE WEB

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Leading in a Time of Technology Transition

A conversation with Erkan Akyuz, president, Imaging & Workflow Solutions (IWS), McKesson



Erkan Akyuz

It is no secret that technology has changed every aspect of society, and healthcare is no exception. In fact, new evolutions in healthcare technology have resulted in improved data quality, interoperability and improved patient care. However, how do healthcare technology companies lead and innovate while technology changes rapidly?

McKesson's Imaging & Workflow Solutions business has a long, proven history in the industry of bringing the right solutions to their customers and helping them adapt to changes and external influences. With solutions in diagnostic imaging, workflow and image repository and a long-standing commitment to support and services, McKesson's aim is to continue to advance their customers' strategic initiatives that help ensure growth and improved patient care.

In this Q&A with Erkan Akyuz, he'll address technology changes, challenges facing leading organizations and solutions to best approach these challenges. As president of Imaging & Workflow Solutions (IWS) at McKesson, Akyuz understands the steps organizations must take to excel in the healthcare marketplace. As a healthcare executive, he is committed to expanding the business by developing solutions and services that add value to their customers' bottom line as well as help them transition to value-based care.

Q: What's different about leading provider organizations in an era when technology is changing everything?

A: For some, 2015 has been labeled as the time for hospitals and physicians to step up to the "third platform" of technologies use in healthcare delivery.[1] Delivering high-quality healthcare in a cost-efficient way is the primary objective of redesigning care models and clinically integrating providers. We have built a partnership with customers with solutions and services to help them manage change effectively and help them through consolidation.

It's important to demonstrate to customers that we can deliver the right images and the relevant data at the correct time. It's paramount that our flexible products and services integrate clinical data into the imaging cockpit and allow them to tailor the workflow to meet their specific clinical, operational and financial environment.

In a recent Fast Company article, "The 5 Things That Separate True Leaders From Managers," Barry S. Saltzman writes, "True growth and change must come from a place of understanding, which is why it's important whenever possible to explain the reasoning behind your actions to your employees. This includes explaining—as much as you are able—major changes or decisions that are influencing new directives and explaining your own perspective, responsibilities, and experiences. It also includes admitting fault, being willing to ask questions, and not being afraid to pivot in light of new information."[2]

At IWS we are leveraging small, cross-functional consultative teams that can speak to our complete solution. We understand the value of having a more holistic enterprise view of the business and solutions to fit customers' specific operational, financial, and clinical settings.

Q: What would you list as the top two or three challenges facing for leading provider organizations?

A: Our customers are facing more challenges than ever with converging priorities such as massive IT investments, provider-change fatigue, and pressures to reduce costs and enhanced care coordination across the continuum. This view is supported by a recent consultant's report: "Organizations…will invest in infrastructure elements such as technology, data warehousing, predictive analytics, care models, care teams, and risk-based payment structures that align financial and clinical incentives for stakeholders. Physician leaders must drive the population health initiatives in order to be successful.[1]

This consultant goes on to state that with ACA cuts, sequestration, and reimbursement changes from value-based payment methodologies, there will be a renewed focus on reducing operating costs to achieve financial sustainability in 2015. Many

Delivering high-quality healthcare in a cost-efficient way is the primary objective of redesigning care models and clinically integrating providers. We have built a partnership with customers with solutions and services to help them manage change effectively and help them through consolidation.

Like healthcare organizations, vendors must also have leadership in place that is dynamic and detailed oriented and has the ability and willingness to trust employees – avoid the temptations of micro management.

hospitals/systems, our customers included, will be focusing on reducing duplication, non-clinical staff, and non-core expenditures; streamlining processes; maximizing group purchasing; eliminating waste; and other activities[1] to achieve their goals.

And it is important to remember that diagnostic imaging (radiology and cardiology) faces key challenges and opportunities related to the evolution to value-based care. By responding to these reimbursement pressures with enterprise diagnostic imaging solutions that help enable interoperability and data exchange and by removing the silos of radiology or cardiology information, we can help organizations chart an achievable path toward sustainable success.

Q: What are some of the best approaches to addressing these challenges?

A: Like healthcare organizations, vendors must also have leadership in place that is dynamic and detailed oriented and has the ability and willingness to trust employees – avoid the temptations of micro management. My style is to empower people, I trust them, and I measure them with their outcomes.

In addition, our goals must be two-fold. First, build strong and mutually beneficial partnerships with our customers with solutions and services that help them manage change rapidly and effectively and guide them through consolidation. And secondly, develop IT and workflow solutions that help enable the interoperability and flexibility required to reduce total cost of ownership and realize the true value of enterprise diagnostic imaging.

As a vendor, we must help support our customers in this transition from volume- to value-based imaging, with solutions and services that help them address the pressures they experience as they adopt new technologies, and introduce new workflows and processes.

Q: Today technology is rapidly changing. How do leading provider organizations stay current without sacrificing quality while still making cost-effective decisions?

A: Organizations whose strategic plans include population health management will be investing in infrastructure elements such as technology, data warehousing, predictive analytics, care models, and more. These investments will help align their financial and clinical incentives. The leaders of these organizations must drive the population health initiatives in order to be successful.[2] One method is to consolidate information, reduce duplication and complexity, while breaking down data silos, thereby helping to deliver the right images and the relevant data when it is needed, and helping to improve the quality and cost effectiveness of care delivery to the value chain.

Processes, people and resources must be deployed to achieve quality outcomes in the most cost-effective setting possible. This year [2015] will see more organizations (i.e., hospitals, medical groups and others) create/join accountable care organizations (ACOs) and clinically integrated networks. This expansion will require investments in infrastructure to support new systems and processes of care – the most significant of which will be for information technology to provide real-time[1] access to relevant data in a timely manner.

Q: How is McKesson addressing changes in technology?

A: McKesson IWS delivers flexible, vendor-neutral solutions that work within any customer's current healthcare IT environment to help improve imaging clinical effectiveness, resource utilization and quality that helps meet the needs of our customers to deliver better patient care.

The unique capabilities in our enterprise diagnostic imaging solutions help to orchestrate clinician and related workflows by enabling interoperability between existing systems and helping the transition from volume to value-base care. And our unique 360-degree perspective across the industry can help customers chart a clear, logical and achievable path toward sustainable success.

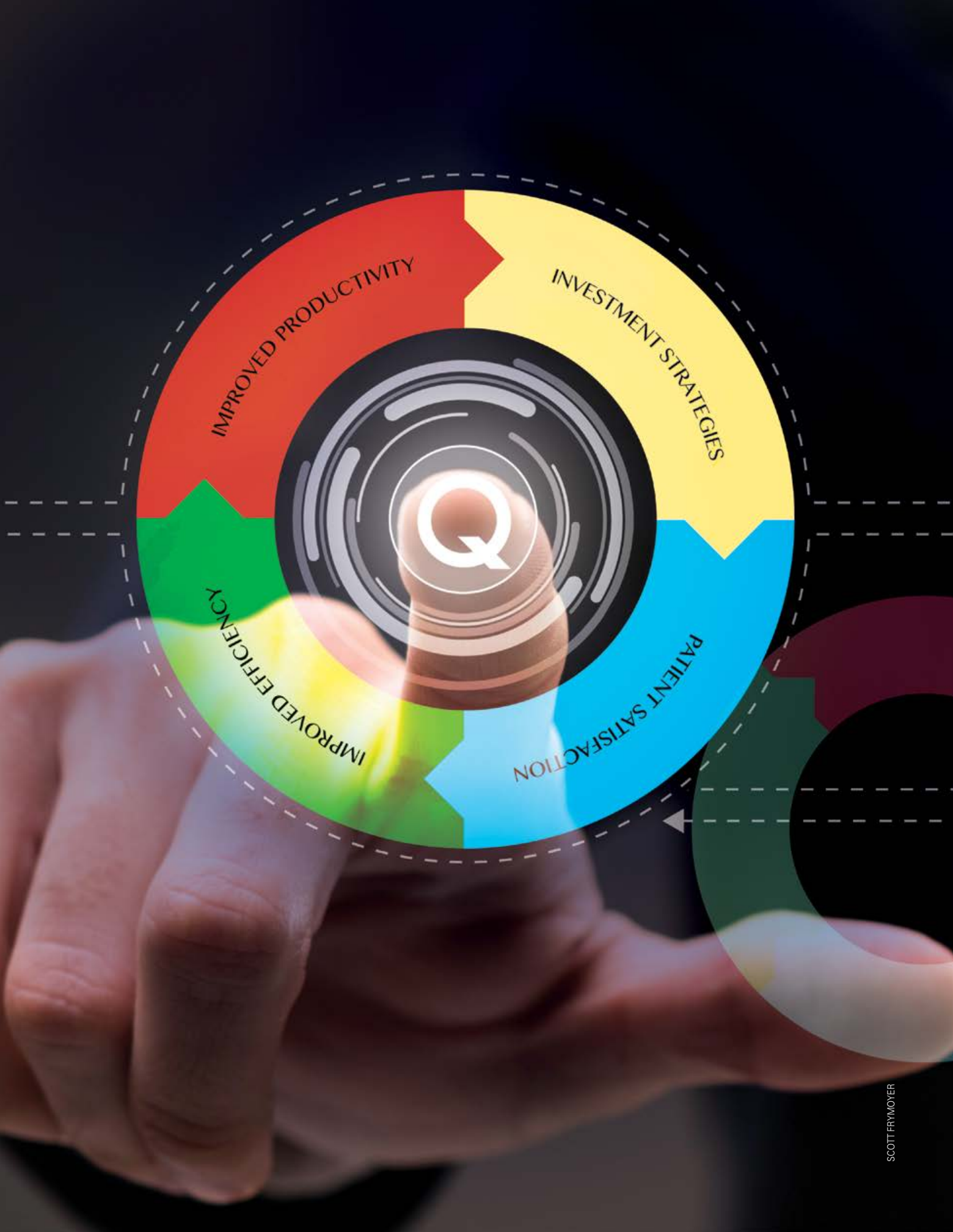
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Quality in the Continuum of Care

As outpatient visits continue to increase, it has become more common for hospital systems to open additional ambulatory care centers to better serve their patients and bolster financially sustainable volumes. Today, over 70% of care is delivered outside the hospital, contributing to approximately 50% of hospital revenues.

Ambulatory care centers require tremendous coordination with numerous ancillary departments within the hospital. Some of the industry's best care centers partner with their hospital laboratories, for instance, to provide services at these centers to ensure the highest

By Maryann O'Toole and Jamel Giuma

University of Miami Health System shares how it reinforces quality, bolsters volumes

Diagnostic communities are no longer a thing of the future, but a reality of the present.

levels of quality in testing, quick turnaround times (TATs), and patient and physician satisfaction. University of Miami Health System (UHealth) is one example. UHealth relies on our laboratory information system (LIS) to help integrate similar workflows from our main campus core lab in Miami out to satellite ambulatory care centers to standardize a diagnostic community record for patients.

STANDARDIZATION IS KEY

As executive director of Laboratory Operations for the Department of Pathology at UHealth, I work with phlebotomy, information technology (IT), medical technologists and client services teams to open and run a half-dozen satellite laboratories for our ambulatory care centers spanning over 1,000 square miles in South Florida. Due to the ability of UHealth patients to visit any of UM's ambulatory locations, standardization of the laboratory instrumentation is crucial in providing excellence in quality and safe care. It is imperative that the LIS directly integrates the laboratory instrumentation and follows identical workflows for physicians, patients and laboratory staff. Our professionals also rely on consistent processes, so that the laboratory staff , for example, is able to work at different locations to further maximize staffing arrangements due to standardized workflows and procedures at each care center.

By utilizing well-defined processes, standard instrumentation and one LIS, more than 75% of testing stays local to the respective laboratory where the patient visited their physician and had their specimens collected. In addition to drastically reduced TATs, the patient care centers have seen decreased transportation issues and a reduction in lost specimens when transferring samples back to the main campus core lab in the heart of Miami. Test results are automatically interfaced and available in the Electronic Medical Record (EMR) and sent directly to the physicians in minutes, as opposed to hours or days. This expedited TAT empowers physicians to make nearly immediate clinical decisions – often while patients are still present in the office –reducing the need for additional callbacks to patients and follow-up visits. Patient and physician satisfaction remains high at the University of Miami, which consistently scores well on returned surveys.

STREAMLINED APPROACH

Staff training has been streamlined with the use of the same EMR and LIS across core lab and satellite lab locations in the ambulatory care centers. By utilizing "performing labs" in our LIS, UHealth is able to utilize consistent order codes for physicians, phlebotomy staff and medical technologists, which eliminates the need for additional education for staff members. The result is a reduction in errors and the ability for managers to move staff across locations much more efficiently.

Like many healthcare organizations, UHealth is asked to do more with less. I am able to work with supervisors and managers to make sure all locations are adequately staffed and can quickly help fill gaps wherever there are shortages by reallocating cross-trained employees. Standardization and consistency within computer systems are the cornerstones for thriving on limited resources.

Due to the fact that over 75% of our testing is completed locally at each satellite location, my team has been able to reduce courier cost and eliminate many unnecessary trips to and from the core lab. We now only reserve couriers for stat requests and daily pickups for batches of more esoteric requests. The LIS allows us to create these batches and track that all specimens were received back at the core lab, and out to their reference laboratory, if necessary.

INTERNAL BUSINESS

A 2014 Marwood Survey reported that 85% of CFOs want more lab volume to come in-house, rather than to let independent laboratories take the business. Over 70% of hospital CFOs view the lab as strategically important and 50% of them expect to buy or partner with independent laboratories. With excess capacity, laboratories are being tasked to do exactly what UHealth and many other market leaders are doing. Diagnostic communities are no longer a thing of the future, but a reality of the present. EI

Maryann O'Toole is executive director of Laboratory Operations, University of Miami Health System Department of Pathology. **Jamel Giuma** is product manager, Sunquest Information Systems, Inc.

ON THE WEB

As noted in this article, over 70% of hospital CFOs view the lab as strategically important and 50% of them expect to buy or partner with independent laboratories. Experts examine individual challenges and mutual benefits of "Hospital and Commercial Lab Partnerships" at www.advanceweb.com/executiveinsight.



Efficiency in Healthcare Delivery

The impact of online scheduling is explored

By Tom Cox

Providers want to spend their time providing great care to their patients. Unfortunately, operating inefficiencies can keep them from their mission. Some studies cite that administration takes up 30% of their work day. Fortunately, the healthcare industry is now starting to view operating efficiency in ways similar to other industries.

A key operating metric is capacity. In healthcare, this is appointment capacity per physician (their time). For an auto plant, it is how much of the time it runs. (Last year, U.S. plants operated at 96% capacity.) It can even be applied to sports. Most NFL teams operated at full capacity last year, with 100% of the seats sold for every game.

According to a recent Medical Group Management Association (MGMA) study, most U.S. practices operate at about 88% capacity. Some practices struggle more than this, with show rates as low as 50% – and where double-booking is the norm. No-shows and abrupt cancellations plague even the best physician practices.

A recent report commissioned by the Association of American Medical Colleges (AAMC) concluded that the U.S. will have a physician shortage of up to 90,000 doctors by 2025. Most groups say the solution is to train more providers. That might work in the long term, but what if we can boost the productivity of the physicians we already have with better technology tools? For example, if we reduce no-shows by 50% across the country (something that is being accomplished in many practices today via reminders and online scheduling solutions), we will add back the equivalent of 50,000 doctors to the healthcare system.

There are now online scheduling tools that are helping to solve this problem – and they're rapidly becoming popular with patients. The research firm Accenture forecasts that two-thirds of U.S. health systems and their patients will use online scheduling tools within five years. The firm also predicts that by 2020, nearly 40% of all medical appointments will be self-scheduled, adding an estimated $3.2 billion in value to the healthcare system.[1]

OUT WITH THE OLD?

For decades, most patients have made appointments by phoning their physician's office.

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SCOTT FRYMOYER

This leads to appointment times that are inconvenient for the patient and provider. For example, the patient might get stuck with an appointment several weeks away, which increases the likelihood of a no-show. And the provider might get too many appointments at peak times (like Monday mornings) rather than high-availability times like Friday afternoons.

Online scheduling tools make it much faster and easier to align patient demand with provider availability. The Accenture study found that it takes less than one minute to schedule a medical appointment online. In contrast, scheduling by phone takes an average of over eight minutes, where 63% of the time is wasted on call transfers from one staff member to another.

Patients who use cloud-based scheduling tools are seen much faster and have higher show rates:

- **20% of them get same-day or next-day appointments – and more**

HHS AND CFPB WARNING SHOTS FIRED: 3 STEPS TO PREP YOUR HEALTH SYSTEM

When Health and Human Services (HHS) Secretary Sylvia M. Burwell issued the HHS press release, "Better, Smarter, Healthier," on Jan. 26, 2015, she fired a warning shot that every hospital CEO should have heard, loud and clear. Though we have all heard rumblings around potential changes to the nation's healthcare system under the Affordable Care Act, this was the first time specific goals, with distinct measurements and timelines, were set to shift Medicare's reimbursement system from the typical fee-for-service (FFS) model to one that rewards quality.

The release outlined an immediate mandate for healthcare decision-makers across the system to rethink how they provide care, how they manage overall patient health, and how they are paid for their work. Though Secretary Burwell was clearly speaking to the healthcare system at large, she was also challenging CEOs across the system to make their organizations better and smarter, and to bring innovation to their delivery systems.

HHS's goal is to shift 50% of traditional FFS Medicare payments to quality or value through alternative payment models by the end of 2018, and to tie 90% of traditional Medicare payments to quality or value. For the hospital CEO, hospital readmissions reductions and value-based purchasing programs are the most likely vehicles to meet those goals. Debating whether they can be achieved is pointless: The shot has been fired, changes to the system will continue, and the rate of change will likely increase.

HHS has defined a simple framework for classifying payments based on how providers are paid to provide care:

1. **Fee-for-service with no link of payment to quality**
2. **Fee-for-service with a link to quality**
3. **Alternative payment models built on a structure similar to fee-for-service**
4. **Population-based payment**

Shifts between these classifications are happening before our eyes. Prior to the Affordable Care Act's passage, a high percentage of payments fell in the first category, with little or no link to quality or value, rewarding volume over quality. But by the end of 2014, approximately 20% of Medicare payments were value-based.

But that's not the only trend healthcare CEOs must consider. Emerging pressures placed on the system by consumer protectionism and increased regulatory burdens are sure to cause waves as well.

The Consumer Financial Protection Bureau (CFPB) has indicated it may choose to regulate financial transactions between healthcare organizations and their service providers to ensure consumers are treated fairly. Their leaders will be forced to understand relevant consumer financial protection laws and put systems and controls in place to comply with them. For the first time, executives could be held accountable for the actions of their vendors and service providers. A data breach at a company sending statements to patients could mean a hefty fine for their provider clients under the assumption that the provider was responsible for the vendor's actions. Likewise, if a collection agency is sued for misrepresenting the status of a past due account, the hospital could be named as a co-defendant in the action brought by the consumer. Because of this potential, many healthcare systems have proactively sought new communication and account flow technologies to aid in the effective processing of patient accounts, developing systems that adequately consider consumer fairness and compliance requirements while simultaneously creating efficiencies that act to reduce days outstanding and bad debts.

Recently, hospital CEOs have taken three steps to guide their organizations through these industry changes:

They understand how their environments are changing and where obsolescence will occur. The organization does not change; rather, shifts are judged by others to be better or at least permanent. The combination of these two tyrannies, "change" and "judgment," cause obsolescence. Leaders have evaluated the changing environment intentionally to stay ahead of the curve.

Effective CEOs manage their organizations during these times to encourage and reward every employee for innovations that help provide better quality of care. Cultures of innovation and creativity become contagious. Set the tone by recognizing innovations that improve the patient experience and support a healthier population. In the long run, it will improve your organization's financial health by putting you on the leading edge of the reimbursement shift. Expect great innovations from your people, but reward the slightest gains.

Embrace new technologies that help the process. Every day new systems are launched to help your people run faster with their work while improving the quality of the patient experience. Do not accept mediocrity from your systems vendors, your telephony providers, or your business office's billing and collection platforms. Excellence exists in the marketplace. Demand it from your own systems, or replace them with technologies that make things exponentially easier on your people and your patients. You cannot run a progressive organization with sub-standard technology.

Though the reimbursement system is changing and regulatory intervention is growing, the opportunity exists for great leaders to take their organizations to new heights.

—Steve Scibetta, Ontario Systems

One study found that it takes less than one minute to schedule a medical appointment online. In contrast, scheduling by phone takes an average of over eight minutes, where 63% of the time is wasted on call transfers from one staff member to another.

than half receive appointments within a one-week window.

- **Patients prefer choosing their own appointment time, rather than dealing with someone over the phone and being given a time.**
- **By receiving confirmation and reminder messages the way they prefer (text, voice or email), some patient groups have improved show rates by 100% or more.**

Online scheduling also helps improve provider productivity and patient satisfaction in a variety of ways, including:

- **Off-hour scheduling – More than half of all patients prefer to schedule outside of normal working hours: before work, during lunch or in the evening.**
- **Improving provider workflow – Online scheduling tools can ensure that hospital discharge follow-ups fall on the same morning each week – and that two new patient appointments don't get scheduled back-to-back.**
- **Automated ways to boost show rates – Scheduling tools make it easy to identify times of day (typically late afternoon) when no-shows spike so that practices can double-book in a data-driven way.**
- **Helping patients arrive informed – When patients schedule online, they can be prompted to fill out patient registration forms and can receive automated patient readiness information such as "Don't eat 12 hours in advance of your appointment."**

MEDICINE'S DIGITAL FRONTIER

Many industry observers feel that the growing acceptance of telemedicine will inevitably spur even greater demand for online scheduling. A new study from MD Live found that 82% of adults 18 to 34 actually prefer a same-day consultation via Skype or mobile device versus having to wait a week or more for an in-person appointment.[2] Intel's recent Healthcare Innovation Barometer showed that 72% of all patients, regardless of age, were willing to have teleconsultations for non-urgent care.[3]

According to Truven Health Analytics, the current lack of online convenience is one reason why Millennials are 24% less likely to have a regular primary care physician than are Boomer Age patients.[4] That will change as it becomes more commonplace to schedule – and be seen – online.

Digital tools are also solving the referral problem. Getting physician referrals for appointments with specialists has long been a sinkhole of time, where it may take 20 minutes to schedule an appointment using three-way calling. In addition, many "referred" patients are never confirmed for appointments. The journal *Annals of Internal Medicine* estimates that over 60% of referrals are never scheduled.

One major health insurer recently used online scheduling software as an alternative to three-way calling. Implementation of this convenience had impressive results:

- **Five times more calls were made using the same resources**
- **Three times more member appointments were scheduled**
- **Attendance rates nearly doubled, thanks to automated reminders**

CONVENIENCE DRIVES CAPACITY UTILIZATION

Consumers today have made it clear: They prefer going online to order a pizza, get a cab or reserve a movie ticket. Patients (the consumers of healthcare services) are also demanding online conveniences, which are sure to influence their loyalty to the providers with the easiest access.

What's good for the consumer is also good for the provider, since the same digital solutions that improve the patient experience are boosting operating efficiency. While training the next generation of physicians is critical, let's make it easier for them to increase productivity and do more of what they enjoy—providing care. A physician practice is no different from any other business. It's more profitable and effective when running at full capacity. By helping eliminate costly no-shows and streamlining workflow, online scheduling tools help maximize the healthcare system's most precious resource: our physicians' time. EI

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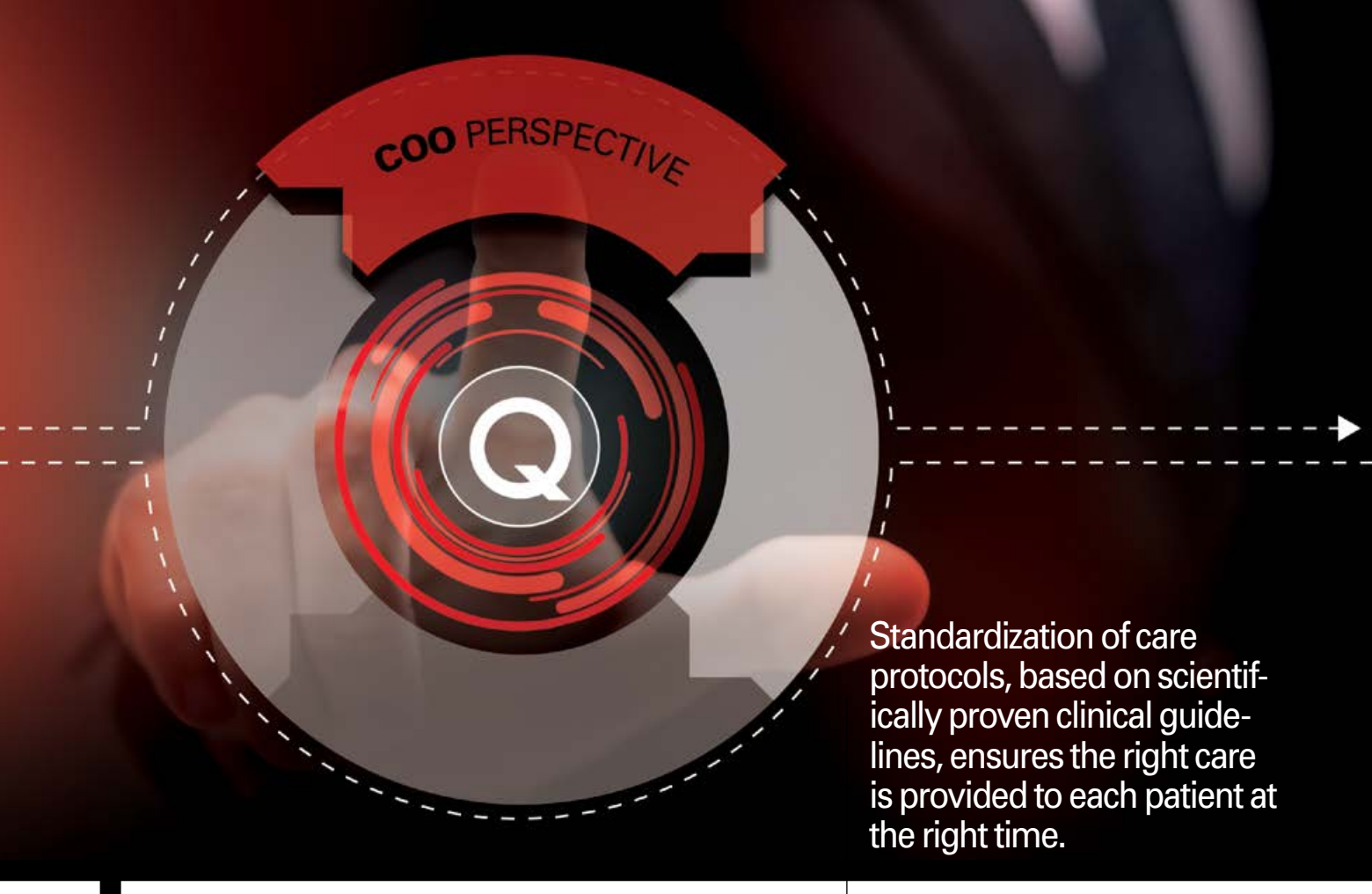
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ON THE WEB

Every administrator, office manager, doctor, nurse, lab technician, scheduler, clinic director or admissions clerk knows that keeping patients waiting in long, slow-moving lines is a recipe for poor service. Not only can long waits cause patients to become extremely upset and agitated, but it can also result in lost opportunities in the form of walk-outs and poor patient reviews. Read **"Easing the Sting for Patients Waiting in Line"** at www.advanceweb.com/executiveinsight.



Standardization of care protocols, based on scientifically proven clinical guidelines, ensures the right care is provided to each patient at the right time.

Improved Productivity in Healthcare Delivery

Just-in-time staffing and hypertension protocols improve productivity for Henry Ford Medical Group

By Thomas Nantais

The transformation of the healthcare industry from a fee-for-service to a value-based reimbursement model has demanded an increased focus on productivity improvement and streamlined clinical processes. However, strategies to improve productivity within a healthcare organization require a delicate balance among the needs to reduce costs, optimize use of staff and provide quality patient care.

At Henry Ford Medical Group, one of the nation's largest group practices with more than 100 years of experience and 1,200 fully employed physicians, productivity improvement that enhances patient care is an ongoing effort. Use of lean management strategies to identify new staffing initiatives that enable nurses and physicians to work at top of license, along with standardization of care protocols, such as hypertension diagnosis and treatment, throughout all 40 medical specialties in 25 different outpatient settings, are two ways the medical group has improved productivity.

STAFFING INITIATIVES ADDRESS TIME SAVINGS, SKILL LEVEL

Because staffing costs represent a significant portion of any healthcare organization's budget, it is often the first expense category assessed to reduce expenses. Staff responsibilities were redefined in our organization after a review revealed a less than optimal allocation of resources. We found that a higher percentage of registered nurses were caring for tasks that did not require the skill level of a registered nurse than the percentage of medical assistants caring for these tasks. By restructuring the staff and hiring more medical assistants to assist physicians with hands-on care, the organization's nurses are now

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SCOTT FRYMOYER

able to practice at top of license by caring for patients in wards, fielding calls for the nurse-on-call program, or screening and responding to patient correspondence in physicians' email inboxes. The ability to use registered nurses for higher level care represents a cost-effective use of human resources and enhances patient care by ensuring the availability of the right skill set at the patient's bed, on the telephone or in correspondence.

Improving the use of physicians' time and expertise is the goal of our pilot program that evaluates the use of scribes. Medical assistants enter information into the patient's electronic health re-

DO MORE BY DOING LESS: 1 TOOL CAN MAKE ALL THE DIFFERENCE TO A HEALTHCARE COO

Just when you thought there was finally time to relax, a glance at your inbox reveals an old copy of the Health & Human Services (HHS) press release issued by Secretary Sylvia Burwell last January. In it, she declares that by the end of 2018, HHS expects 50% of Medicare payments will shift from fee-for-service to quality- or value-based alternative payment models. Slowly going the way of the dinosaur are the volume-based payments, offering fixed reimbursement for the work done by doctors. Moving in are models that pay for the work's quality, and the overall health of your patients.

It doesn't help when you learn the Consumer Financial Protection Bureau (CFPB) may have more than a passive interest in how you conduct your consumer financial transactions. When Dodd-Frank was passed, it seemed as if the financial services sector was the only interest. But now healthcare? Can this be real?

The truth is, change is a constant in our industry. About the time we think things are running smoothly, more shifts in the business and regulatory environment force us to stop and evaluate what we are doing. New processes or methodologies often become outdated before they're even rolled out, simply because the information used to develop them changes.

It's the COO's job to challenge the status quo at every turn and refuse to believe that old systems, people and methods that worked yesterday will work in the future. They simply will not.

At the heart of productivity improvement is "work elimination," a discipline that often gets confused with workflow optimization, where managers oftentimes get distracted and work on figuring out new ways to do the same work better. That's a noble purpose that can provide certain gains, but the most astute manager is more likely looking for unnecessary steps the organization takes anyway, knowing that on average, eliminating them can provide at least four times more improvement in productivity than just doing the same work in a more efficient way. What meetings can be eliminated? What paperwork and reporting is useless? What workflows can disappear without anyone noticing? What processes are no longer needed? Every organization has them, and leading managers create a culture that searches for and removes them.

The COO should stop asking, "How can we do this better?" Instead, they should ask, "Why do we do this in the first place?"

A classic example of work elimination can be seen in hospital business offices across the country. In the old systems, employees had to sift through hundreds of accounts each day to find the accounts that needed to be worked that day. But now, new technologies have been developed to eliminate this unnecessary activity by placing the right accounts, at the right time, in front of the right person, to be worked the correct way, right away. Huge productivity improvements have been documented by organizations that have implemented these new software systems that stand upon a philosophy of automated workflow coupled with advanced analytics. This is work elimination at its best - to only see those accounts that must be worked now.

A great place for the COO to begin is with their direct management team. It is widely recognized that managers create work for other managers, not for themselves. When the finance department asks for a report from the IT department, they create work for the IT manager. In large organizations we find example after example of departments creating work for each other with reckless frequency. This behavior is sub-optimal and must be eliminated by the COO.

Let's consider a real world story: Years ago a new business office director accepted a position at a large metropolitan hospital with extremely high days in AR (accounts receivable) and high bad debt. She was charged with fixing this messed up operation. On her first day, the CFO who hired her said, "Here is a calendar with all of the meetings that you need to attend each week. This is the schedule for the director."

The new manager was bewildered as she counted up to 12 weekly and 3 monthly meetings that required her participation. She asked, "How do you expect me to straighten out your business office while I am sitting in all these meetings?"

As the leader of your organization, you should strive to help your employees be as productive as possible.

After much discussion and debate the two finally agreed that she would attend every meeting on the calendar, one time. She would sit quietly, as most new managers do. If the words "business office" were not mentioned in any meeting, they agreed that she would not have to attend that particular meeting in the future. At the end of the first month it was determined that she only needed to attend the monthly department head meeting, one of the weekly meetings (which was a meeting with her new boss), and she would send one of her supervisors to a third meeting. This list of 15 meetings was reduced to three, only two requiring her participation. She used this same "work elimination" philosophy with her own employees, and within nine months, days in AR were well below industry averages and bad debt was under control.

As the leader of your organization, you should strive to help your employees be as productive as possible. You can do this by helping your people find work to eliminate. This philosophy and mode of operation must start at the top. Set the right example for your people by eliminating needless meetings, needless memos or emails, needless reports, and needless activities. Challenge them by always asking why they do what they do before you allow them to attempt to do their work better. It is highly likely that you will find things they can eliminate, making them more valuable to you and your organization, while simultaneously improving their job satisfaction.

—Steve Scibetta, Ontario Systems

Focusing on patient-centered strategies that ensure staffing and clinical processes optimize use of resources while meeting patients' expectations is possible and will enable the organization to successfully balance both critical needs – productivity and quality patient care.

cord (EHR) as the physician talks with or examines the patient. Allowing the physician to focus on interacting with the patient rather than looking down at a keyboard not only improves the patient's encounter but also enables the physician to focus more closely on the patient without documentation distractions.

An additional benefit realized with the use of scribes is time savings for the physician. Physicians not included in the scribe pilot program saw patients every 15-20 minutes – time that included EHR documentation. Physicians with scribes accompanying them in the exam room saw patients in less than 15 minutes, which increases the number of patients each physician can see each day.

With "just in time" as a core component of lean management practices, we have overlapped some staff shifts to provide extra coverage during a clinic's busiest time of day and provide lower coverage during less busy times. For example, pediatric clinics are filled with patients between 7 a.m. and 10 a.m., then again between 3 p.m. and 7 p.m. Making sure additional staff members are on hand before and after school, when most patients are in the clinic, gets patients in and out of the clinic more quickly and eliminates staff downtime.

Another program that also provides just-in-time staffing creates "partners" among different clinics located in the same facility. If one clinic is crowded with patients and a partner clinic is not as busy, staff members who have been cross-trained for each clinic will work in the busy clinic for the amount of time needed to handle the high volume. This strategy not only improves productivity by enabling staff and physicians to serve more patients, but it also places staff where they are most needed to provide quality patient care.

CLINICAL STRATEGIES REDUCE ACUITY AND COST OF CARE

In addition to implementing strategies targeted at staffing issues, clinical care enhancements also produce better use of staff and improved patient care.

Standardization of care protocols, based on scientifically proven clinical guidelines, ensures the right care is provided to each patient at the right time. When protocols are aimed at preventing disease or minimizing the exacerbation of disease, patient outcomes are improved, and the acuity of care required in clinic settings is lessened, which allows staff to care for more patients during the day.

One example of a proactive, preventive care protocol used throughout all specialty and primary care clinics at Henry Ford Medical Group addresses the early identification of hypertension. Using tools and resources provided by the American Medical Group Foundation's (AMGF's) Measure Up/Pressure Down® campaign, processes designed to improve blood pressure monitoring to efficiently pick up the early signs of hypertensive disease in all patients are widely implemented throughout outpatient care settings in almost all specialties. Henry Ford Medical Group has achieved an increase in blood pressure control from 57% to 65% with this campaign.

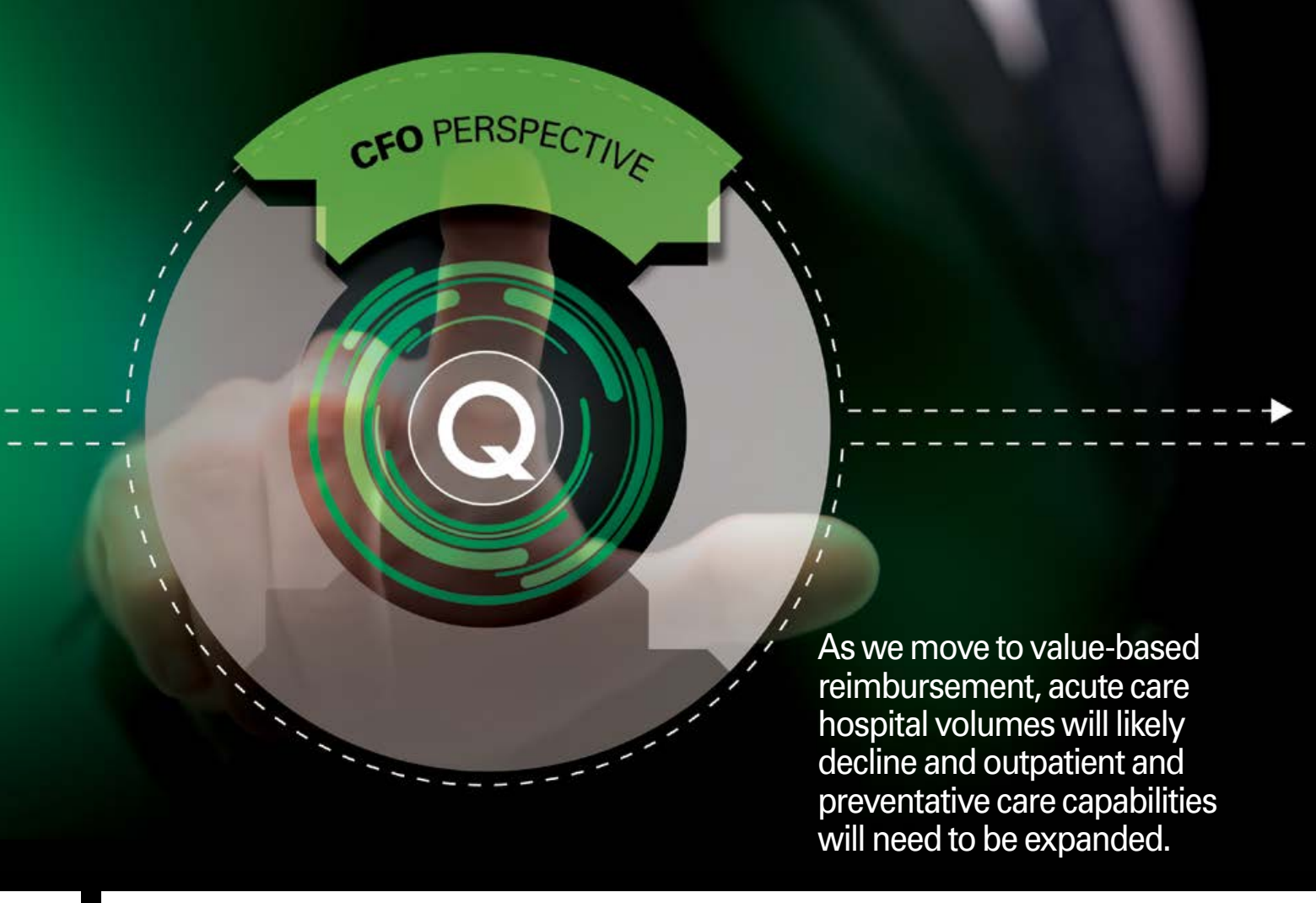
Ensuring that blood pressure readings are taken before the physician enters the room, and that they are taken correctly, enables the physician to include a discussion of the blood pressure results in the conversation with the patient. Clear identification of patients at risk, along with recommended lifestyle changes and medication therapies, when needed, are included in protocols to support consistent care across clinics and specialties.

More importantly, quality care that leads to fewer sick visits and less intensive medical care requires continuous monitoring of both patient behavior and results of interventions. When a physician can review trends in blood pressure with patients and correlate improvements or declines to specific behaviors or therapies, the patient and physician benefit from a more complete overview of the patient's health.

Healthcare organizations face unique challenges when addressing the need to improve productivity and reduce costs. Like businesses in other industries, there are a myriad of operational strategies that can produce positive effects on the bottom line. However, unlike other industries, initiatives that are designed to improve the hospital or medical group's capability to offer cost-effective patient care must also ensure quality patient outcomes. Focusing on patient-centered strategies that ensure staffing and clinical processes optimize use of resources while meeting patients' expectations is possible and will enable the organization to successfully balance both critical needs – productivity and quality patient care. EI

ON THE WEB

"Decentralized" phlebotomy is a once-popular hospital staffing strategy that dissolves the centralized, laboratory-based phlebotomy staff and saddles the nursing personnel with the lab's blood collection responsibilities, effectively disconnecting and "decentralizing" the collection of the sample from the testing process. Although studies show it fails in nearly every facility that tries it, today's healthcare climate is forcing C-suites throughout the U.S. to reconsider the concept industry-wide. Can it work in your facility? Read **"Dangers of Decentralized Phlebotomy"** at www.advanceweb.com/executiveinsight.



As we move to value-based reimbursement, acute care hospital volumes will likely decline and outpatient and preventative care capabilities will need to be expanded.

Effects of Hospitals' Health IT Investments on Quality of Healthcare

Hospitals are struggling with the uncertainty of when and how to invest in capabilities for value-based reimbursement and how far to go in assuming financial risk for populations

By Richard Kimball Jr.

Richard Kimball Jr., a financial executive with deep proficiency in the healthcare industry, is currently a Fellow in Stanford's Distinguished Careers Institute and building a healthcare technology start up, HEXL.COM.

There is a growing need and increasing demand for American hospitals, physician groups and payors to adopt innovative clinical models enabled by advances in information technology. As payment models begin to shift from fee-for-service to value-based reimbursement, healthcare providers will need new technologies to manage the health of populations while assuming and managing incremental financial risk. This shift holds the promise of reduced healthcare costs with improved outcomes, but providers currently lack the infrastructure and technology to broadly accomplish these ends.

VIRTUAL HEALTH

With advances in data science and telehealth combined with the assumption of greater risk, U.S. hospitals are now beginning to experiment with new care delivery models. As we move to value-based reimbursement, acute care hospital volumes will likely decline and outpatient and preventative care capabilities will need to be expanded. Technology will be required to

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FIG. 1: AMERICAN HOSPITAL ASSOCIATION (AHA) IN-PERSON AND VIRTUAL PATIENT-PHYSICIAN VISITS FROM 2008-2013

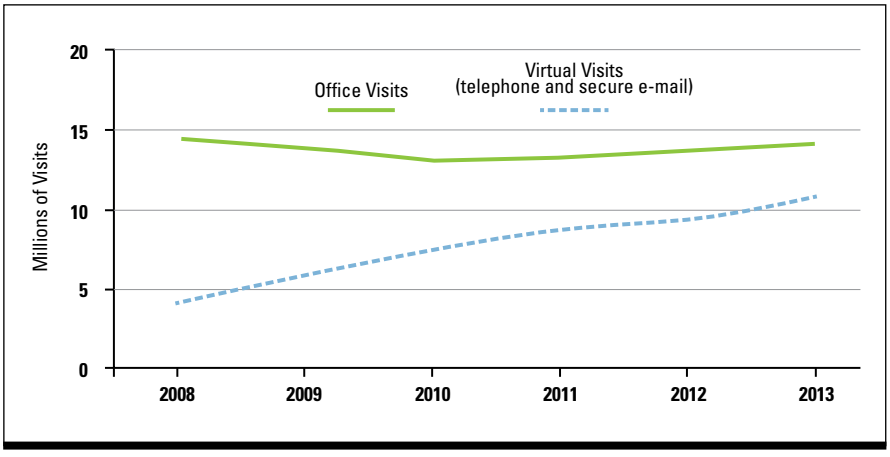
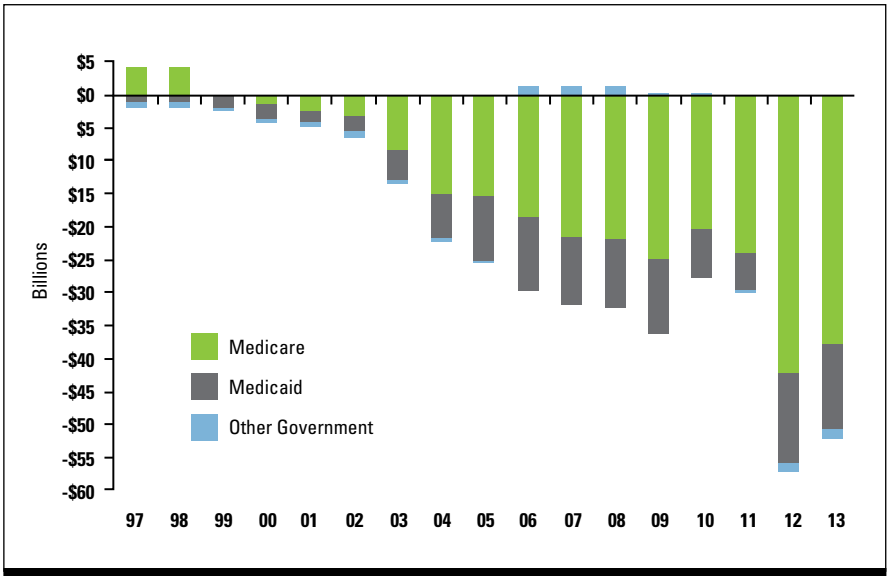


FIG. 2: - AHA HOSPITAL PAYMENT SHORTFALL RELATIVE TO COSTS FOR MEDICARE, MEDICAID AND OTHER GOVERNMENT



Careful consideration will need to be put into the timing and sequencing of IT investments and clinical innovation to ensure an orderly transition from a fee-for-service world into more capitated forms of reimbursement.

identify the highest risk patients, divert them to the optimal venue of care and provide ongoing care coordination for chronically ill patients.

One example of this new care delivery model is virtual health, which is just beginning to gain traction.

Now, patients have the choice to visit a doctor or hospital or simply stay at home. Since 2008 virtual visits rose from 4.1 million to 10.5 million in 2013, AHA reported. Doctors can now diagnose patients virtually and securely send their diagnosis to the patient and other physicians through electronic medical records, image sharing technology and video conferencing.

MANAGEMENT OF CARE

Additionally, as health systems begin to take risk on populations, they will need to be more involved in managing the continuum of care from the primary care physicians through to the acute and post-acute settings. IT solutions will be required to manage the care transitions and minimize readmissions. As an example of how challenging the paradigm shift is right now for these systems, the penalty for readmission is lower than the additional revenues generated by the readmission itself. Nevertheless, surprisingly readmissions have, in fact, declined as hospital systems are anticipating further changes in reimbursement, which will ultimately force them to be more efficient and lower utilization. Hospitals and doctors know the industry will move forward at some point with value-based reimbursement when the incentives will be better aligned across all constituencies in the care process.

Hospitals will also need to evolve their revenue cycle operations to accommodate all forms of reimbursement simultaneously. As many of these hospitals are still running on legacy systems, building this additional capability to handle ACO, shared saving, bundled payments and other forms of value-based reimbursement will be costly and complex to deploy. This substantially complicates the IT infrastructure required to manage such revenue cycle operations.

With the proliferation of high deductible insurance plans, patients will need substantially more information and guidance on the cost, quality and trade-offs of different procedures and providers.

In addition, hospitals will need to develop entirely new systems to understand their cost structure in a partially or fully capitated environment. New activity-based cost accounting systems will need to be deployed to understand resource utilization and ensure that the system can deliver care at a cost lower than their capitated rate. Substantial operational and even cultural changes will need to be made as doctors will no longer be compensated by RVUs (relative value units); rather, new compensation structures will emerge to be better aligned with the capitated risk being borne by the health system.

Another front hospitals will have to respond to is the consumerization of healthcare. With the proliferation of high deductible insurance plans, patients will need substantially more information and guidance on the cost, quality and trade-offs of different procedures and providers. Patients will demand greater transparency from both hospital and physician providers. Hospitals will need to collect that data and ultimately supply it to the emerging healthcare marketplace.

IT INVESTMENTS

For hospitals to achieve all of this successfully, they will need significant new IT investments. It has become increasingly difficult for American hospitals to invest in information technology given their very thin margins and ongoing reimbursement pressure particularly from Medicare and Medicaid.

Hospitals are struggling with the uncertainty of when and how to invest in capabilities for value-based reimbursement and how far to go in assuming financial risk for populations. It is perilous for these institutions to move too quickly from the fee-for-service environment and lose their most profitable business. This challenge is even more pressing as the Meaningful Use requirements of the Affordable Care Act push hospitals to invest heavily in electronic medical records.

Hospital CFOs will need to navigate an increasingly complex reimbursement landscape over the coming years. This will necessitate significant new IT investments to manage both the clinical and financial aspects of different forms of reimbursement. Careful consideration will need to be put into the timing and sequencing of IT investments and clinical innovation to ensure an orderly transition from a fee-for-service world into more capitated forms of reimbursement. EI

ON THE WEB

Despite the power and promise of analytics, actionable insights derived from data still require planning and follow-through by employees to make them meaningful for both the patient and healthcare organization. Read **"Turning Actionable Insights into Action"** at www.advanceweb.com/executiveinsight.





Behavioral Health Integration Boosts System-Wide Quality

Sharing decision support data provides better care and greater savings

By Wayne Easterwood

Wayne Easterwood is CIO of Nashville-based Centerstone of America, the nation's largest nonprofit provider of community-based behavioral care, and its affiliate Centerstone Research Institute.

The central aim of health reform is to foster better coordination across the entire care continuum so that providers have a holistic view of each patient – and even entire populations. The biggest structural hurdle is that the U.S. has an almost entirely separate care delivery system for behavioral health conditions. Mental illness is the third costliest health condition in the U.S., on par with what's being spent for cancer treatment. More than 57 million Americans have a mental illness, yet most behavioral health data doesn't make its way into patients' medical records.

To achieve health reform's Triple Aim – improving access, enhancing quality and lowering costs – behavioral health workflow and decision support must be better integrated into the overarching health system. There's simply no way to bend the cost curve and boost quality without making behavioral health one of the cornerstones of collaborative care and population health management.

A recent study by The Commonwealth Fund[1] found that as many as 80% of behavioral health patients present at EDs and primary care clinics, where providers often lack the training to effectively diagnose and treat their conditions. Research also shows that patients with comorbidities (such as depression and diabetes) are costly "high utilizers" of the healthcare system – and drive hospital readmissions higher (Figure).

There are several reasons why this wall exists between behavioral health and the rest of the medical community. Even in 2015, mental illness and substance abuse issues often carry a social stigma that doesn't exist for other conditions. Many patients don't want their MDs to know they're being treated for these conditions – and many feel that their primary care physicians would actually "mess up" their medication regimen.

FIRST STEPS TOWARD COLLABORATIVE CARE

It's important to note that behavioral health providers already have the skill-set needed to succeed in collaborative care. Unlike many primary care physicians, they understand what's

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involved in community outreach, patient engagement and prevention.

While the much-touted Health Information Exchanges (HIEs) offer the possibility of better data integration, they haven't gained as much momentum as initially forecasted. Most provider organizations see value in getting the information, but not in sharing that information. It's still difficult to justify the cost of paying for access to that data.

Some of the most innovative attempts to integrate behavioral health and medical care are taking place in these settings:

- **Co-location programs (like those implemented by Centerstone in four Midwest states) where behavioral health providers and PCPs work closely together in the same location. Their efforts are augmented by hundreds of community-based caregivers who gather important data at patients' homes and workplaces.**
- **Accountable Care Organizations (ACOs) that have a stake in the shared savings and improved quality derived from collaborative care. Crystal Run Healthcare ACO in New York integrates behavioral health and medical care to about 11,000 patients. Essentia Health ACO's integrated delivery system does the same thing across 18 hospitals, 63 clinics and 1,500 providers in Wisconsin, Minnesota, North Dakota and Idaho.**
- **Medicare/Medicaid pilot programs like COMPASS, the alliance between Mayo Clinic and Kaiser Permanente. The Kaiser Family Foundation estimates that more than one-third of Medicaid beneficiaries have a mental illness – and of those, 61% have a comorbid condition.[2] The COMPASS program incorporates many features of the University of Washington's groundbreaking collaborative care model for behavioral health integration.**

BETTER TOOLS FOR DECISION SUPPORT

For every behavioral health patient there are thousands of data points, yet only a few are likely to be critical indicators. Identifying them can be difficult, but there are now data analytics and business intelligence tools that are helping to pinpoint critical data. These tools provide a more complete picture of overall health – both physical and behavioral – to improve outcomes.

For example, these tools can identify the most critical data points immediately before, during and after a behavioral health ED visit. This information helps enhance the quality of care and guides operational and workflow improvements.

Based on data analytics, St. Anthony Hospital in Oklahoma City completely reorganized its ED to include a mental health admissions office. The result: Wait times for seeing a behavioral health professional have dropped from two hours to 20 minutes.[3]

Data accuracy needs to be constantly evaluated. For example, behavioral data from the National Outcomes Measurement System (NOMS) is accurate for the majority of behavioral health patients. But for the sickest, it's often inaccurate – not intentionally, but because those patients self-report incorrectly.

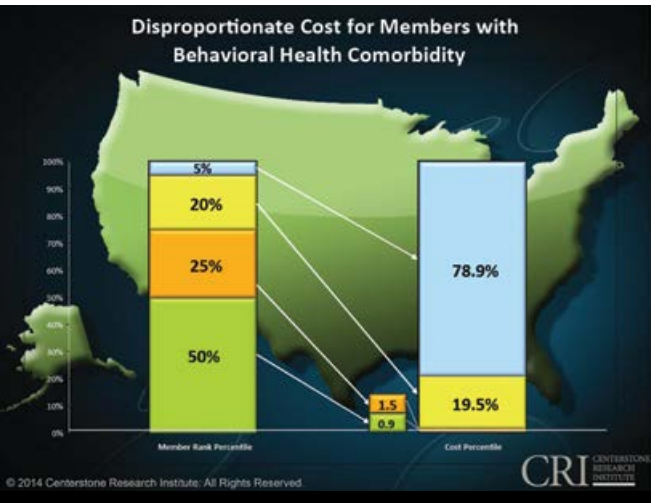


Figure: Research identifies costly "high utilizers" of the healthcare system.

BEHAVIORAL HEALTH: ESSENTIAL FOR COLLABORATIVE CARE

When 57 million Americans have a large portion of their health data handled separately from their main medical record, that's the antithesis of collaborative care. The number of Americans with mental health issues is equivalent to the combined population of California, Oregon, Washington, Utah and Nevada – and it's imperative to find ways to better integrate their data into health system EHRs and HIEs.

Some forward-looking health systems, like Carroll Hospital Center in Westminster, Md., have taken steps to ensure that behavioral health is one of the pillars of their population health management initiatives – on equal footing with chronic disease management and wellness programs.

The nonprofit Health Research and Educational Trust (HRET) recently published a study called "The Second Wave of Population Health," which insists that behavioral health is one of the eight metrics essential to success.[4] EI

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ON THE WEB

Behavioral medicine is getting much more exposure with the various population health initiatives. Will behavioral health/mental illness be part of the ICD-10 coding changes? Be sure to read our **"ICD-10 Ask the Experts"** section of our dedicated ICD-10 Resource Center at www.advanceweb.com/executiveinsight.

Mobile Medicine

Leverage emerging technology to meet rising urgent care demands

By Andrew Wagner, MD, MBA

Andrew Wagner, MD, MBA, is chief medical officer at StatDoctors.

Primary care physicians are a critical component of our healthcare system, dating back to the family doctor's home visits in colonial times. But in recent years, these physicians are pressed to care for an ever-increasing number of patients due to factors such as millions of newly insured Americans and an aging population. The Association of American Medical Colleges projects that by the year 2025, physician demand will outpace our nation's supply by a range of 46,000 to 90,000. This projection includes a shortfall of 12,500 to 31,100 primary care physicians.[1]



As a result, patients often experience long wait times for appointments with primary care providers. The 2013 Massachusetts Medical Study revealed this state's average wait time for a new patient appointment with a primary care physician is 39 days.[2] When patients experience an urgent care need such as a minor sports injury or the onset of flu-like symptoms, they can be frustrated by such delays. But when the alternative is waiting at the hospital emergency department (ED) and possibly incurring more costs and testing, what should patients do?

One solution is the use of telemedicine for unscheduled, urgent care, which offers benefits to both parties. Physicians can practice medicine with the benefits of telecommuting, which offers flexibility and a less stressful work environment. In turn, patients can receive expert care while avoiding delays associated with making appointments, or the hassle and potential costs of visiting a hospital ED for urgent rather than emergent care needs. With this solution, though, comes providers' responsibility to stay abreast of state telehealth regulations while adhering to best practices that promote better outcomes.

VIDEO: A CRITICAL PIECE OF THE TELEHEALTH EQUATION

While telemedicine seems like a good answer, its application – and therefore, its effectiveness – varies widely from provider to provider. Although state telehealth regulations vary, a prevalent theme is video utilization. Currently, 46 state Medicaid programs reimburse for some form of live video telehealth treatment.[3]

Video is a critical part of the telehealth experience for both physicians and patients. For physicians, a video consultation gives them the ability to visually assess their patients. Through physicians' extensive training, experience and skill set, they are able to draw conclusions based on their observations alone. Audio-only telehealth consultation removes this crucial component of a consultation, forcing the physician to rely upon what the patient says.

For patients, a face-to-face visit can foster more meaningful interactions and help replicate a more intimate doctor-patient relationship achieved by in-person consultations.

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As telehealth emerges as a solution for unscheduled, urgent care, telehealth providers must not only comply with state regulations, but also employ the best practices that can help their physicians develop the optimal doctor-patient relationships.

Much like the millions of people who use video conferencing to communicate with family and friends, physicians and patients can have a more in-depth and meaningful exchange via video. This seemingly soft benefit is quite significant. According to the telehealth guidelines established by the Federation of State Medical Boards (FSMB), if a doctor-patient relationship doesn't already exist when using telehealth, a physician must take appropriate steps to establish one. FSMB outlines this relationship as a critical component of telehealth, stating, "The health and well-being of patients depends upon a collaborative effort between the physician and patient." This relationship and collaboration are why numerous states require a video visit before a physician can prescribe medications.

SECURITY STANDARDS

Meeting HIPAA requirements and ensuring patient privacy and security requires different processes and technology for telehealth providers. The virtual nature of the physician appointment along with use of mobile technology requires an advanced level of privacy and security. In addition to the patient's electronic records, audio and video sessions must be securely transmitted and archived, if retained.

A good example of how telehealth security differs is patient identification verification. Patients cannot be verified in persons with a physical form of identification as they would at a physician's office. Consequently, telehealth providers must be able to identify patients in other ways.

In the telehealth world, the proper identification must be securely transmitted from a trusted party, which is typically the employer or its benefits administrator. Such information can be transmitted via a real-time EDI 27x session or an eligibility file. Confirming patient identification electronically is a telehealth best practice because it provides a high standard of security and privacy while also enabling the provider to determine patient coverage.

DIAGNOSIS AND CARE THROUGH HIGH CLINICAL STANDARDS

Just as telehealth regulatory standards vary widely from state to state, the level of care offered by telehealth providers is also varied. Some telehealth providers use registered nurses or physician's assistants. Others use a variety of physicians, who may be board-certified in areas ranging from obstetrics to pediatrics. As telehealth evolves, the ideal board certification is emergency medicine. A board-certified emergency physician not only has exemplary skills at assessing and diagnosing the types of cases presented in an urgent care situation, but can care for patients with more complex conditions and easily determine if the patient requires additional treatment at a hospital.

Another best practice for telehealth providers is having a dedicated team of physicians rather than contract or temporary physicians. This model replicates the primary care provider model, where physicians are close colleagues and follow similar styles of clinical practice. This collegial relationship allows for a more consistent patient experience. Lastly, a close-knit team of physicians will feel more vested in the practice and can collaborate with leadership regarding how to improve service.

KEEPING THE DOCTOR-PATIENT CONNECTION PARAMOUNT

With the advent of the Affordable Care Act, providers are incorporating more technology into their organization than ever before. These technologies can fulfill various strategic initiatives, but one vital component of the patient experience can never be replaced: the personal connection between a physician and patient. As telehealth emerges as a solution for unscheduled, urgent care, telehealth providers must not only comply with state regulations, but also employ the best practices that can help their physicians develop the optimal doctor-patient relationships. In turn, these relationships – whether for one patient encounter or 100 – can facilitate better outcomes and better patient experiences. EI

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ON THE WEB

Some experts say mHealth is big business and can save more lives more efficiently. Read "How mHealth Will Help Us Save Ourselves" at www.advanceweb.com/executiveinsight to see if you agree.

MDx and Chronic Disease

Can molecular diagnostics aid in the diagnosis and prognosis in complex chronic diseases?

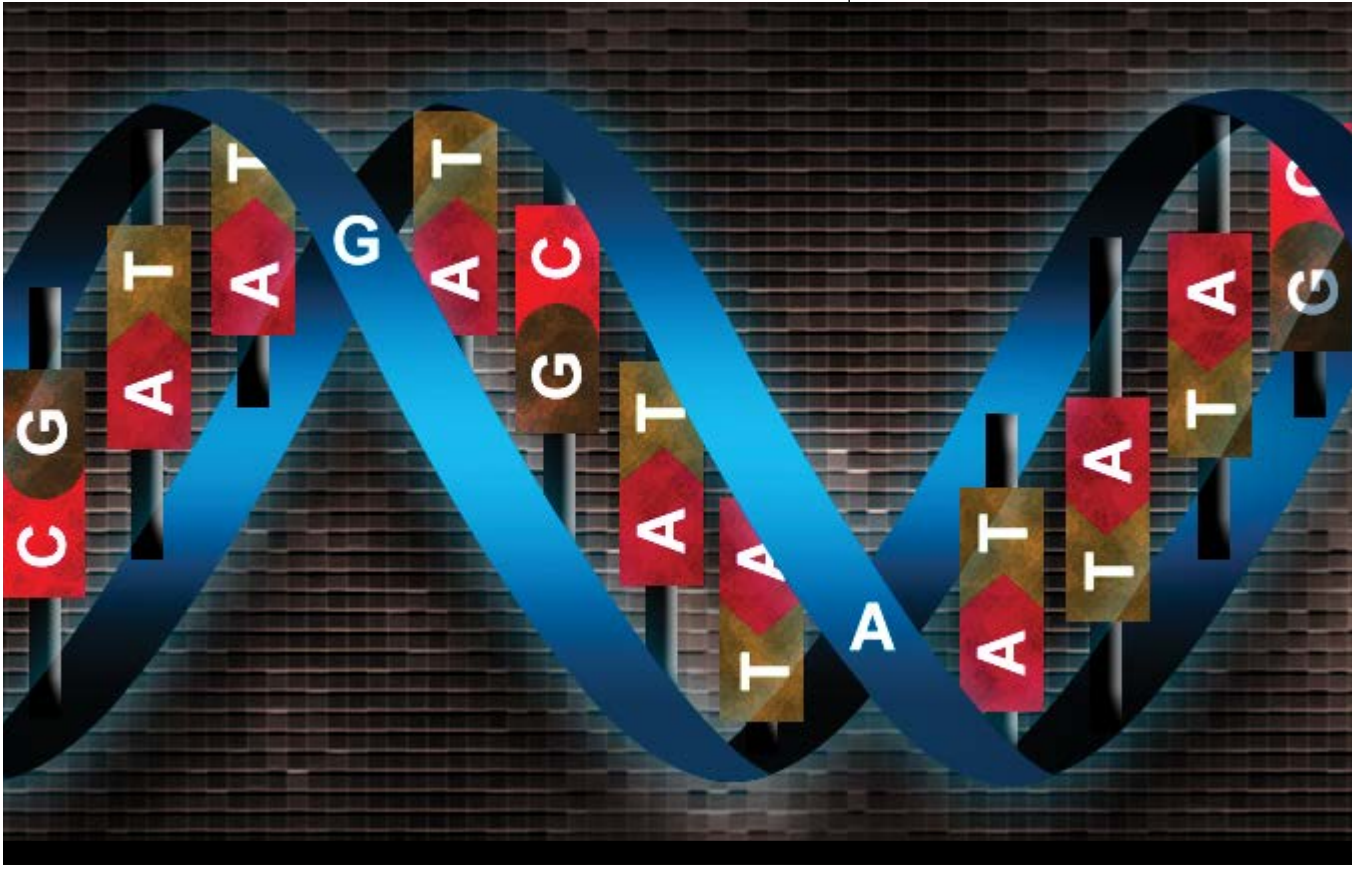
By Robin A. Felder, PhD

Robin A. Felder, PhD, is professor of pathology; associate director, clinical chemistry, The University of Virginia Department of Pathology, Charlottesville, VA.

Chronic disease affects over 75% of the human population, is responsible for 7 out of every 10 deaths and is costing the U.S. economy almost a trillion dollars each year. The Department of Health and Community Services has focused on the following chronic diseases since they affect a large percentage of the population and have a significant negative effect on the quality of life:

- **arthritis,**
- **cancer,**
- **chronic pain,**
- **diabetes,**
- **heart disease,**
- **kidney disease,**
- **lung disease, and**
- **stroke.**

In addition to environmental causes, chronic diseases also have a genetic component that determines each individual's susceptibility to these conditions. As the health system shifts its focus from disease management to wellness, there will be an increasing need to encourage lifestyles that are tailored to each individual's genetic susceptibility to chronic diseases. Recent focus is on the use of single nucleotide polymorphisms (SNPs) in our genome as predictors for chronic disease. There are over 1.25 million single nucleotide polymorphisms (SNPs) identified in the human genome, yet relatively few chronic diseases have been linked to individual gene variants, suggesting that many diseases are polygenic (meaning they arise from the presence of many interacting SNPs). Thus, molecular diagnostics (MDx) will provide predictive values for those



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As the health system shifts its focus from disease management to wellness, there will be an increasing need to encourage lifestyles that are tailored to each individual's genetic susceptibility to chronic diseases.

who are most likely to acquire and succumb to chronic disease based on the presence or absence of various SNPs. When this information is combined with family history and environmental information (e.g., consumption of fat, salt, or excess calories), a tailored approach to a healthier lifestyle will be possible.

HAPLOTYPE TESTING

Haplotype analysis is another form of polygenic testing proving useful for diagnostic testing. Many studies have demonstrated that SNPs are found next to each other in clusters along the single strands of DNA that make up a chromosome. These tightly linked clusters, in blocks of 3 to 92 kilobases, survive a history of inherited chromosomal translocations, crossovers, and other recombination events. Thus, tightly linked variants that have remained associated with each other (also referred to as being in linkage disequilibrium) can be predictive of disease. Furthermore, since they are so tightly linked, the analysis of only a few SNPs is often predictive of the entire haplotype.

In cancer there are already examples of chronic disease prediction using SNPs. Familial adenomatous polyposis (APC) disease leads to colorectal cancer in about 80% of subjects who test positive for the *APC* gene. *BRCa1* and *BRCa2* have been associated with an increase in the incidence of breast cancer, prompting some women to get prophylactic mastectomies if they test positive for these SNPs. SNPs in five DNA regions have moderate predictability of prostate cancer individually, but in combination the association is quite strong. Other areas under intense investigation are SNPs predictive of bladder, testicular, and lung cancer.

HYPERTENSION AND/ OR SALT SENSITIVITY

Novel genes have been shown to be predictive for hypertension and salt sensitivity (the tendency to increase blood pressure following a high salt meal).

Hypertension can result from single SNPs (monogenic hypertension), as well as multiple genetic defects. Monogenic forms of hypertension affecting less than 1% of the population include glucocorticoid-remedial aldosteroneism, apparent mineralocorticoid excess, mineralocorticoid receptor mutations, and Liddle's Syndrome. Essential hypertension (high blood pressure of unknown origin) and/or salt sensitivity of blood pressure affect over 50% of the adult population. Approximately 30%-50% of the polygenic form of hypertension is genetically inherited and the remainder is due to environmental factors, such as consumption of excess salt.

Recent advances have identified a number of SNPs associated with these variations of blood pressure and salt sensitivity, suggesting that we can reduce the mortality and morbidity associated with these highly prevalent diseases. There is the potential for very large number of molecular tests to be necessary to prevent or delay these highly prevalent diseases.

Polygenic testing calls for new mathematical treatment of genetic testing data to create a mathematical model that would determine that the polygenic test was statistically valid, multifactor dimensionality reduction (MDR) to determine the best genetic model predicts each phenotype. In the case of SS hypertension, a three locus model incorporating three variants in GRK4 successfully predicted the phenotype correct 94.5% of the time. These results illustrate the important point that interactions among genes result in the expression of complex phenotypes such as hypertension.

GREATER UTILITY OF POLYGENIC TESTS

Polygenic testing will become more popular as additional SNP panels are discovered that yield data related to the likelihood of expressing a disease. Even greater utility of polygenic tests will be achieved when used in conjunction with personal and family history data, review of coexisting conditions, physical examination for particular symptoms, and when confirmed by other laboratory tests. It can also be anticipated that novel therapeutic approaches to treat disease will be revealed by polygenic testing, since SNPs that are predictive of disease might lie in pathways that may become useful therapeutic targets. EI

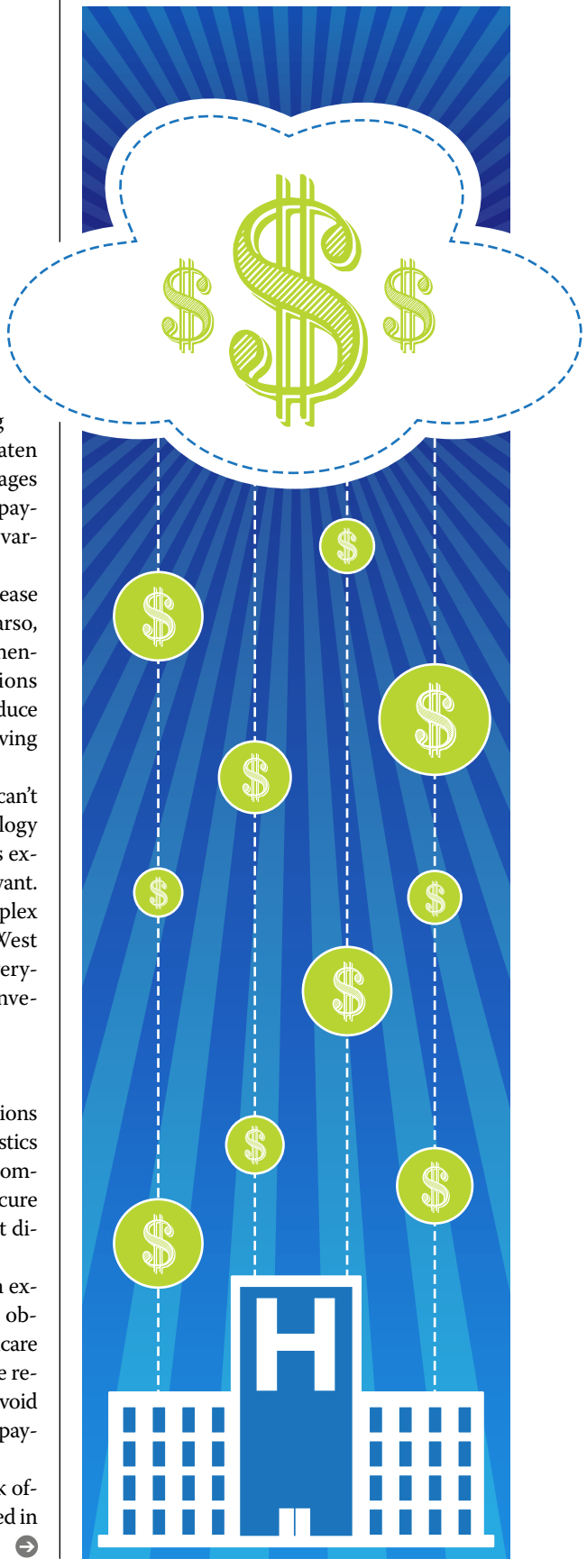
ON THE WEB

In the coming years, healthcare organizations' success managing population health will hinge on capabilities that other sectors of the American economy have relied on for over a decade. These same capabilities will be the key to containing costs and optimizing system utilization, goals that are only becoming more important as providers enter into new value-based contracts with commercial and public payers and strive to meet and report on new quality metrics. Read **"Marrying Math and Science"** in our dedicated Population Health Resource Center at www.advanceweb.com/executiveinsight.

The Reality of Virtual Payment Systems

Healthcare providers optimize financial performance with new payment platforms

By Rebecca Mayer Knutsen



Our healthcare system loses billions of dollars each year on antiquated billing systems that waste paper and threaten personal security. New technology encourages optimized financial performance for both payers and providers by allowing flexible and varied payment options.

"The payment landscape is shifting in its ease of use and portability," observed Peter Caparso, chief commercial officer, BlueSnap. Implementation of next-generation payment solutions would help hospitals and medical centers reduce costs while increasing efficiency and improving customer service.

Patients will grow impatient if healthcare can't keep up with the evolving payment technology being adopted in other industries. Patients expect to pay their bills how, and when, they want. "The healthcare payments system is a complex ecosystem," said Tony Kong, director in West Monroe Partners' Healthcare practice. "Everyone wants it to be more efficient and convenience is driving adoption."

SYSTEM SELECTION

When shopping for a new system, organizations need to identify their own unique characteristics that may affect adoption and success. "The common denominator they're looking for is a secure platform," said Jorge Wong, senior product director of Experian Health.

"The system's inefficient ways have been exposed to risks from a security standpoint," observed Kong. To avoid security issues, healthcare facilities need to be aware of PCI compliance requirements for credit card transactions and avoid storing credit card numbers and processing payments manually, he told *Executive Insight*.

"Many medical centers rely on local bank offerings, which can be rudimentary and limited in scope," Caparso said. "Next-generation pay-

SCOTT FRYMOYER

Rebecca Mayer Knutsen is an *Executive Insight* staff writer.

As growing use of virtual payment systems results in increased payment volumes, providers will be in a position to negotiate better deals with payers.

ment providers offer simplified API and hosted payment solutions that can be integrated with little effort from the organization."

The Patient Protection and Affordable Care Act (PPACA) provides standards for Electronic Fund Transfer (EFT) that will lead to payment processing innovation. As growing use of virtual payment systems results in increased payment volumes, providers will be in a position to negotiate better deals with payers.

COST SAVINGS

Electronic Remittance Advice (ERA) emerged to reduce healthcare provider's paper and mailing costs. All payers are now federally mandated to support EFT and ERA to streamline remittance and payment processes in accordance with the requirements specified in the CAQH CORE operating rules.

With electronic payments that follow CAQH CORE operating rules, providers can reconcile payments and remittances automatically and accurately, reducing the cost of manual and administrative work and accelerating cash flows from real-time transactions, explained Bill Shea, vice president, Cognizant Healthcare Consulting.

Processing paper payments is a complex and pricey endeavor. Processing a check and handling a paper claim costs hospitals about $8 and $16, respectively. The U.S. Healthcare Efficiency Index indicates using EFT and ERA for all payments could save as much as $11 billion annually, Shea shared.

With the EFT mandate, Shea explained, payers have reduced their use of checks but not significantly. Poor integration with backend systems and shortage of implementation resources are among the problems affecting adoption.

Beginning in January 2014, all Medicare payments moved to Automated Clearing House (ACH), an electronic network that processes large volumes of credit and debit transactions in batches.

PAYMENT OPTIONS

Hospitals can better position themselves by offering patients a variety of payment options, including ACH, credit/debit and even Apple Pay. "With these solutions, providers could potentially mitigate/shed any PCI requirements," Caparso said.

Shea explained that many providers have been reluctant to share bank account information for EFT transfers. "Providers find virtual payment methods more secure, so payers like Aetna have launched the Virtual Card Program," he said.

Virtual cards are a secure, widely accepted and easily implemented form of payment for small and medium physician practices. A drawback is that providers are required to cover an interchange and transaction fee that can comprise up to 5% of every payment, Shea stated.

Providers need to determine whether a reduction in overall reimbursement amounts is preferable to immediate cash flows. Unlike traditional credit cards that assume bad debt risk, the provider may bear the indirect costs of managing bad debt from virtual cards, Shea said.

In the healthcare industry, the payment is generally viewed as the last process to be fixed in the system, observed Wong. "Many organizations are using unencrypted credit card devices, antiquated workflow processes and paper receipts, and upgrading is a low priority," he relayed.

Wong has predicted that 2015 will be the 100-year storm of payment processing, and not just in healthcare. "This is the year that the healthcare company joins the rest of the world in accepting EMV chip transactions," he said.

Unlike traditional magnetic stripe credit cards, EMV chip cards contain embedded microprocessors that provide strong transaction security features and other application capabilities. In October 2015, hospitals will be required to process payments with a chip reader (in card-present situations), not a magnetic reader, for cards equipped with a chip. "If a hospital doesn't follow protocols, and the card is found to be fraudulent, then it will incur the liability for that fraudulent card," Wong explained.

Hospitals will need to invest in new EMV capable machines but Wong hopes they will see it as an opportunity to increase PCI security, reduce IT efforts and integrate the whole system. "Take the opportunity and run with it," he advised. "Don't just apply a bandage."

The industry is increasingly adopting new technologies designed to improve financial performance while meeting consumer demands. "There is no denying the fact that virtual solutions are the future of healthcare payments," Shea said. EI

ON THE WEB

It is no secret that the U.S. healthcare industry has reached a critical inflection point in the evolving payments landscape. Read **"Driving New Payment Solutions"** at www.advanceweb.com/executiveinsight to learn about the keys of collaboration and patient engagement.



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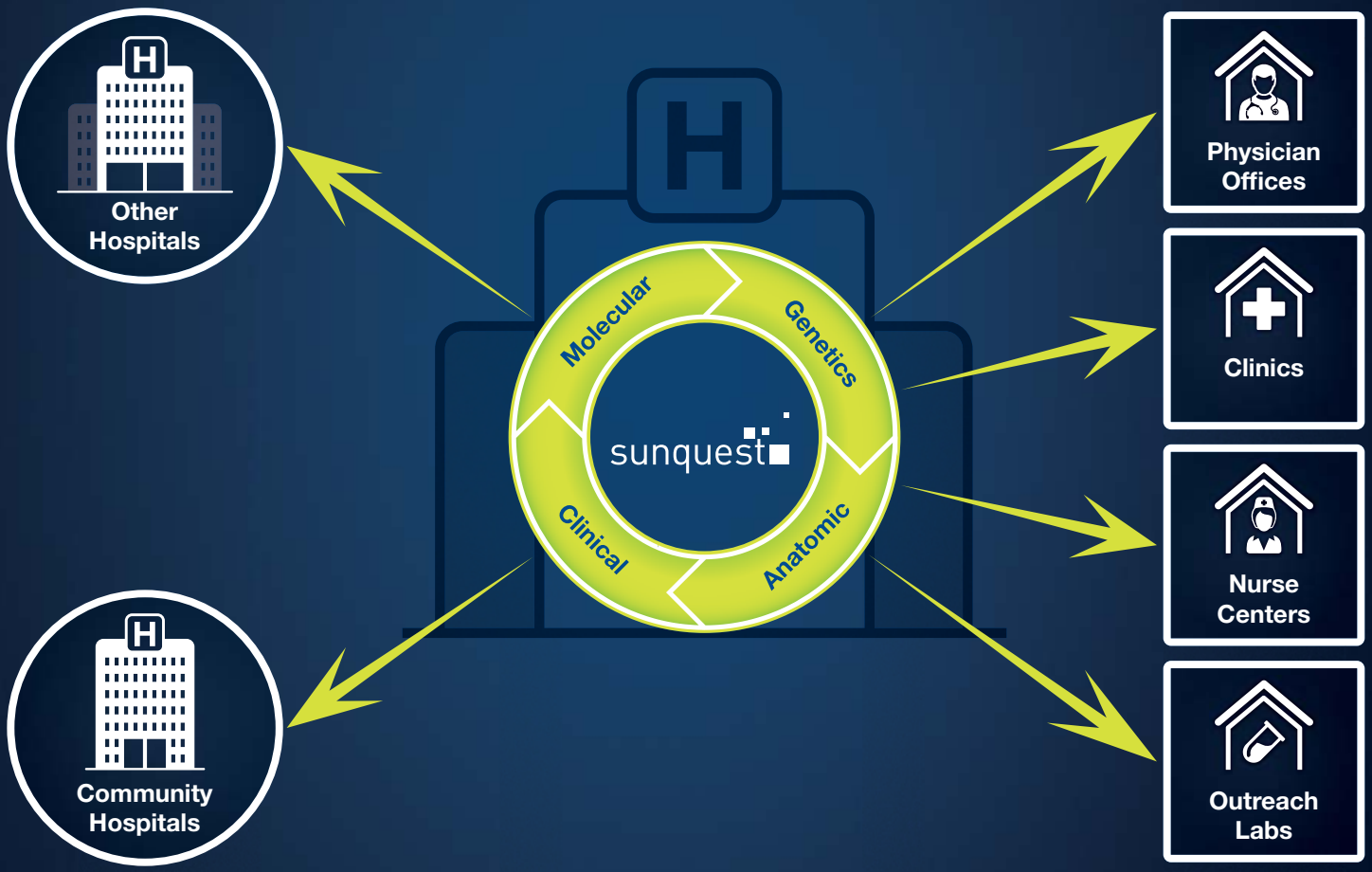
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